

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Withdrawn) A recording system for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said recording system comprising:

 at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs;

 a plurality of recording channels receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and

 a controller operating said at least one buffer and said plurality of recording channels, said controller:

 operating said at least one buffer and one of said plurality of recording channels to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape;

 saving said provided data at said at least one buffer; and

 during the same operation, operating said at least one buffer and another of said plurality of recording channels to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data.

2. (Currently amended) ~~The recording system of Claim 1;~~ A recording system for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said recording system comprising:

at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs;

a plurality of recording channels receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and

a controller operating said at least one buffer and said plurality of recording channels, said controller:

operating said at least one buffer and one of said plurality of recording channels to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape;

saving said provided data at said at least one buffer; and

during the same operation, operating said at least one buffer and another of said plurality of recording channels to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said data stored in said buffer is in the form of data transactions; and wherein said controller additionally responds to an indication that said stored data transactions are to be written to magnetic tape as synchronized data transactions; operating said at least one buffer and one of said recording channels to cause a separate set of said plurality of write heads to write said stored data transactions from said buffer to tracks of magnetic tape in a discontinuous manner, and saving said provided data transactions at said at least one buffer; and, during the same operation, operating said at least one buffer and another of said plurality of recording channels to cause another separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape in a continuous arrangement.

3. (Original) The recording system of Claim 2, wherein said controller additionally operates said one recording channel to cause said separate set of said plurality of write heads to write separator signals between said discontinuously written data transactions.

4. (Original) The recording system of Claim 2, additionally comprising an interface for receiving said data transactions and storing said received transactions to said at least one buffer, and wherein said controller additionally, for each received said synchronized data transaction, returns a command complete at said interface upon completion of said writing said received synchronized data transaction to tracks of magnetic tape in a discontinuous manner.

5. (Currently amended) ~~The recording system of Claim 1,~~ A recording system for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said recording system comprising:
at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs;
a plurality of recording channels receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and
a controller operating said at least one buffer and said plurality of recording channels, said controller:
operating said at least one buffer and one of said plurality of recording channels to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape;
saving said provided data at said at least one buffer; and
during the same operation, operating said at least one buffer and another of said plurality of recording channels to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved

data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said controller operates said wrap control, said at least one buffer and said plurality of recording channels to write said provided data from said at least one buffer to one of said wraps, said data to be saved, and to rewrite saved said data on another of said wraps; and to seek to an alternate of said wraps to continue to write said provided data to be saved, and to seek back to said one of said wraps and said another of said wraps.

6. (Withdrawn) The recording system of Claim 1, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said controller operates said wrap control, said at least one buffer and said plurality of recording channels to access said wraps in a sequence, such that a wrap having said data to be saved follows in said sequence a wrap at which said data is rewritten, such that a continuous string of wraps are first written with said data to be saved, and then are overwritten with said rewritten data.

7. (Withdrawn) The recording system of Claim 6, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and a read data system, wherein said controller additionally operates said read data system to read one of said wraps at a time with one set of said plurality of read heads.

8. (Withdrawn) The recording system of Claim 1, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different wraps of said tracks of magnetic tape, and wherein said controller operates said wrap control, said at least one buffer and said plurality of recording channels to write said provided

data from said at least one buffer to one of said wraps in a sequence of said wraps, and to rewrite said saved data to another of said wraps that is offset from said one of said wraps.

9. (Withdrawn) The recording system of Claim 1, wherein said controller additionally operates said at least one buffer and one of said recording channels to cause a set of said plurality of write heads to temporarily rewrite selected saved said data from said at least one buffer to said magnetic tape, and releases said selected data as originally written to tracks of said magnetic tape, said release allowing said originally written data to be overwritten.

10. (Withdrawn) A recording system for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said recording system comprising:

at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs;

a plurality of recording channels receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and

a controller operating said at least one buffer and said plurality of recording channels, said controller:

selectively operating said at least one buffer and one of said plurality of recording channels to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape, and saving said provided data; and during the same operation, operating said at least one buffer and another of said plurality of recording channels to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to write said saved and provided data to other tracks of said magnetic tape; and

selectively operating said at least one buffer and said plurality of recording channels to provide data from said at least one buffer to cause said plurality of write heads to write provided data to tracks of magnetic tape.

11. (Withdrawn) The recording system of Claim 10, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and a read data system, wherein said controller additionally selectively operates said read data system to read one of said wraps at a time with one set of said read heads; and selectively operates said read data system to read a plurality of said wraps at a time with said plurality of read heads.

12. (Withdrawn) A magnetic tape drive, comprising:
a drive system for moving a magnetic tape longitudinally;
a plurality of write heads for writing to said magnetic tape while said magnetic tape is moved longitudinally by said drive system;
an interface for receiving data to be written to said magnetic tape;
at least one buffer storing data received at said interface, said at least one buffer having a plurality of separate data flow outputs;
a recording system receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and
a controller operating said at least one buffer and said recording system, said controller:
operating said at least one buffer and one of said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;
saving said provided data at said at least one buffer; and
during the same operation, operating said at least one buffer and another of said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data.

13. (Currently amended) ~~The magnetic tape drive of Claim 12;~~ A magnetic tape drive,
comprising:

a drive system for moving a magnetic tape longitudinally;
a plurality of write heads for writing to said magnetic tape while said magnetic tape is
moved longitudinally by said drive system;
an interface for receiving data to be written to said magnetic tape;
at least one buffer storing data received at said interface, said at least one buffer having a
plurality of separate data flow outputs;
a recording system receiving output data flow from said plurality of separate data flow
outputs, and for operating separate sets of said plurality of write heads to write data to magnetic
tape; and
a controller operating said at least one buffer and said recording system, said controller:
operating said at least one buffer and one of said recording system to provide data
from said at least one buffer to cause a separate set of said plurality of write heads to write
said provided data from said at least one buffer to tracks of magnetic tape;
saving said provided data at said at least one buffer; and
during the same operation, operating said at least one buffer and another of said
recording system to provide saved said data from said at least one buffer to cause another
separate set of said plurality of write heads to rewrite said saved data to other tracks of
said magnetic tape in a continuous arrangement, whereby said separate sets of said
plurality of write heads, write said data to magnetic tape, and rewrite said saved data to
said magnetic tape, during the same operation, said rewritten data comprising a
continuous arrangement of said data;

wherein said data to be written to magnetic tape is in the form of data transactions; and
wherein said controller additionally responds to an indication that said stored data transactions are
to be written to magnetic tape as synchronized data transactions; operating said at least one buffer
and said recording system to cause a separate set of said plurality of write heads to write said
stored data transactions from said at least one buffer to tracks of magnetic tape in a discontinuous
manner, and saving said provided data transactions at said at least one buffer; and, during the
same operation, operating said at least one buffer and said recording system to cause another

separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape in a continuous arrangement.

14. (Original) The magnetic tape drive of Claim 13, wherein said controller additionally operates said recording system to cause said separate set of said plurality of write heads to write separator signals between said discontinuously written data transactions.

15. (Original) The magnetic tape drive of Claim 13, wherein said controller additionally, for each said synchronized data transaction, returns a command complete at said interface upon completion of said writing said synchronized transaction to tracks of magnetic tape in a discontinuous manner.

16. (Currently amended) ~~The magnetic tape drive of Claim 12,~~ A magnetic tape drive, comprising:

- _____ a drive system for moving a magnetic tape longitudinally;
- _____ a plurality of write heads for writing to said magnetic tape while said magnetic tape is moved longitudinally by said drive system;
- _____ an interface for receiving data to be written to said magnetic tape;
- _____ at least one buffer storing data received at said interface, said at least one buffer having a plurality of separate data flow outputs;
- _____ a recording system receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and
- _____ a controller operating said at least one buffer and said recording system, said controller:
 - _____ operating said at least one buffer and one of said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;
 - _____ saving said provided data at said at least one buffer; and
 - _____ during the same operation, operating said at least one buffer and another of said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of

said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

additionally comprising a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said controller operates said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps, said data to be saved, and to rewrite saved said data on another of said wraps; and to seek to an alternate of said wraps to continue to write said provided data to be saved, and to seek back to said one of said wraps and said another of said wraps.

17. (Withdrawn) The magnetic tape drive of Claim 12, additionally comprising a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said controller operates said wrap control, said at least one buffer and said plurality of recording channels to access said wraps in a sequence, such that a wrap having said data to be saved follows in said sequence a wrap at which said data is rewritten, such that a continuous string of wraps are first written with said data to be saved, and then are overwritten with said rewritten data.

18. (Withdrawn) The magnetic tape drive of Claim 17, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads; and a read data system; and wherein said controller additionally operates said read data system to read one of said wraps at a time with one set of said plurality of read heads.

19. (Withdrawn) The magnetic tape drive of Claim 12, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different wraps of said tracks of magnetic tape, and wherein said controller operates said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps in a sequence of said wraps, and to rewrite said saved data to another of said wraps that is offset from said one of said wraps.

20. (Withdrawn) The magnetic tape drive of Claim 12, wherein said controller additionally operates said at least one buffer and one of said recording channels to cause a set of said plurality of write heads to temporarily rewrite selected saved said data from said at least one buffer to said magnetic tape, and releases said selected data as originally written to tracks of said magnetic tape, said release allowing said originally written data to be overwritten.

21. (Withdrawn) A magnetic tape drive, comprising:

- a drive system for moving a magnetic tape longitudinally;
- a plurality of write heads for writing to said magnetic tape while said magnetic tape is moved longitudinally by said drive system;
- an interface for receiving data to be written to said magnetic tape;
- at least one buffer storing data received at said interface, said at least one buffer having a plurality of separate data flow outputs;
- a recording system receiving output data flow from said plurality of separate data flow outputs, and for operating separate sets of said plurality of write heads to write data to magnetic tape; and
- a controller operating said at least one buffer and said recording system, said controller:
 - selectively operating said at least one buffer and one of said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape, and saving said provided data; and during the same operation, operating said at least one buffer and another of said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to write said saved and provided data to other tracks of said magnetic tape; and

selectively operating said at least one buffer and said recording system to provide data from said at least one buffer to cause said plurality of write heads to write provided data to tracks of magnetic tape.

22. (Withdrawn) The magnetic tape drive of Claim 21, additionally comprising a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads; and a read data system; and wherein said controller additionally selectively operates said read data system to read one of said wraps at a time with one set of said plurality of read heads; and selectively operates said read data system to read a plurality of said wraps at a time with said plurality of read heads.

23. (Withdrawn) A method for writing data to magnetic tape, for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said method comprising the steps of:

buffering data to be written to magnetic tape;

providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data; and

during the same operation, providing saved said data to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data.

24. (Currently amended) ~~The method of Claim 23,~~ A method for writing data to magnetic tape, for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said method comprising the steps of:

buffering data to be written to magnetic tape;

providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data; and

during the same operation, providing saved said data to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said data to be written to magnetic tape is in the form of data transactions; and wherein said method additionally comprises:

responding to an indication that said data transactions are to be written to magnetic tape as synchronized data transactions;

providing said synchronized data transactions from said at least one buffer to cause a separate set of said plurality of write heads to write said synchronized data transactions to tracks of magnetic tape in a discontinuous manner;

saving said provided synchronized data transactions; and

during the same operation, providing saved said synchronized data transactions to cause another separate set of said plurality of write heads to rewrite saved said synchronized data transactions to other tracks of said magnetic tape in a continuous arrangement.

25. (Original) The method of Claim 24, wherein said step of providing said synchronized data transactions to cause said separate set of said plurality of write heads to write said synchronized data transactions to tracks of magnetic tape in a discontinuous manner, additionally comprises causing said separate set of said plurality of write heads to write separator signals between said discontinuously written data transactions.

26. (Original) The method of Claim 24, additionally comprising the step of, for each said synchronized data transaction, returning a command complete upon completion of said writing said synchronized transaction to tracks of magnetic tape in a discontinuous manner.

27. (Currently amended) ~~The method of Claim 23;~~ A method for writing data to magnetic tape, for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said method comprising the steps of:

buffering data to be written to magnetic tape;

providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data; and

during the same operation, providing saved said data to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said magnetic tape drive additionally accesses said plurality of write heads to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps;

wherein said step of providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape, additionally comprises writing said provided data to one of said wraps, said data to be saved;

wherein said step of, during the same operation, providing saved said data transactions to cause another separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape, additionally comprises rewriting saved said data to said magnetic tape to another of said wraps; and

additionally comprising the steps of:

seeking to an alternate of said wraps to continue to write said provided data to be saved; and

seeking back to said one of said wraps and said another of said wraps.

28. (Withdrawn) The method of Claim 23, wherein said magnetic tape drive additionally accesses said plurality of write heads to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps;

wherein said step of providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape, additionally comprises writing said provided data to one of said wraps, said data to be saved;

wherein said step of, during the same operation, providing saved said data transactions to cause another separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape, additionally comprises rewriting saved said data to said magnetic tape to another of said wraps; and

additionally comprising the steps of accessing said wraps in a sequence, such that a wrap having said data to be saved follows in said sequence a wrap at which said data is rewritten, such that a continuous string of wraps are first written with said data to be saved, and then are overwritten with said rewritten data.

29. (Withdrawn) The method of Claim 28, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and wherein said method additionally comprises the steps of reading one of said wraps at a time with one set of said plurality of read heads.

30. (Withdrawn) The method of Claim 23, wherein said magnetic tape drive additionally accesses said plurality of write heads to different wraps of said tracks of magnetic tape;

wherein said step of providing said buffered data to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape, additionally comprises writing said provided data to one of said wraps in a sequence of wraps; and

wherein said step of, during the same operation, providing saved said data transactions to cause another separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape, additionally comprises rewriting saved said data to said magnetic tape to another of said wraps that is offset from said one of said wraps.

31. (Withdrawn) The method of Claim 23, additionally comprising the steps of:
providing selected saved said data to cause a set of said plurality of write heads to temporarily rewrite said selected saved data to said magnetic tape; and
releasing said selected data as originally written to said tracks of magnetic tape in said buffered data providing step, said release allowing said originally written data to be overwritten.

32. (Withdrawn) A method for writing data to magnetic tape, for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads, said method comprising the steps of:

selectively providing data to be written to magnetic tape to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape;

saving said provided data; and

during the same operation, providing saved said data to cause another separate set of said plurality of write heads to write said saved and provided data to other tracks of said magnetic tape; and

selectively providing data to be written to magnetic tape to cause said plurality of write heads to write provided data to tracks of magnetic tape.

33. (Withdrawn) The method of Claim 32, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads; and wherein said method additionally comprises the steps of selectively reading one of said wraps at a time with one set of said plurality of read heads; and selectively reading a plurality of said wraps at a time with said plurality of read heads.

34. (Withdrawn) A computer program product usable with at least one programmable computer processor having computer readable code embodied therein, said at least one programmable computer processor for operating a recording system for a magnetic tape drive; said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; said recording system comprising at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and said recording system for operating separate sets of said plurality of write heads to write data from said plurality of data flow outputs to magnetic tape; said computer program product comprising:

computer readable program code causing said at least one programmable computer processor to operate said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

computer readable program code causing said at least one programmable computer processor to save said provided data at said at least one buffer; and

computer readable program code causing said at least one programmable computer processor to, during the same operation, operate said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data.

35. (Currently amended) ~~The computer program product of Claim 34;~~ A computer program product usable with at least one programmable computer processor having computer readable code embodied therein, said at least one programmable computer processor for operating a recording system for a magnetic tape drive; said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; said recording system comprising at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and said recording system for operating separate sets of said plurality of write heads to

write data from said plurality of data flow outputs to magnetic tape; said computer program product comprising:

computer readable program code causing said at least one programmable computer processor to operate said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

computer readable program code causing said at least one programmable computer processor to save said provided data at said at least one buffer; and

computer readable program code causing said at least one programmable computer processor to, during the same operation, operate said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said data to be written to magnetic tape is in the form of data transactions; and said computer program product additionally comprises:

computer readable program code causing said at least one programmable computer processor to respond to an indication that said data transactions are to be written to magnetic tape as synchronized data transactions; operating said at least one buffer and said recording system to cause a separate set of said plurality of write heads to write said synchronized data transactions from said at least one buffer to tracks of magnetic tape in a discontinuous manner, and saving said provided data transactions at said at least one buffer; and, during the same operation, operating said at least one buffer and said recording system to cause another separate set of said plurality of write heads to rewrite saved said data transactions to other tracks of said magnetic tape in a continuous arrangement.

36. (Original) The computer program product of Claim 35, additionally comprising computer readable program code causing said at least one programmable computer processor to operate said recording system to cause said separate set of said plurality of write heads to write separator signals between said discontinuously written data transactions.

37. (Original) The computer program product of Claim 35, wherein said magnetic tape drive additionally comprises an interface; said computer program product additionally comprising computer readable program code causing said at least one programmable computer processor to, for each said synchronized data transaction, return a command complete at said interface upon completion of said writing said synchronized transaction to tracks of magnetic tape in a discontinuous manner.

38. (Currently amended) ~~The computer program product of Claim 34;~~ A computer program product usable with at least one programmable computer processor having computer readable code embodied therein, said at least one programmable computer processor for operating a recording system for a magnetic tape drive; said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; said recording system comprising at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and said recording system for operating separate sets of said plurality of write heads to write data from said plurality of data flow outputs to magnetic tape; said computer program product comprising:

computer readable program code causing said at least one programmable computer processor to operate said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

computer readable program code causing said at least one programmable computer processor to save said provided data at said at least one buffer; and

computer readable program code causing said at least one programmable computer processor to, during the same operation, operate said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said magnetic tape drive comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and said computer program product additionally comprises:

computer readable program code causing said at least one programmable computer processor to operate said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps, said data to be saved, and to rewrite saved said data on another of said wraps; and

computer readable program code causing said at least one programmable computer processor to operate said wrap control, said at least one buffer and said recording system to seek to an alternate of said wraps to continue to write said provided data to be saved, and to seek back to said one of said wraps and said another of said wraps.

39. (Withdrawn) The computer program product of Claim 34, wherein said magnetic tape drive comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and said computer program product additionally comprises:

computer readable program code causing said at least one programmable computer processor to operate said wrap control, said at least one buffer and said recording system to cause said at least one programmable computer processor to access said wraps in a sequence, such that a wrap having said data to be saved follows in said sequence a wrap at which said data is rewritten, such that a continuous string of wraps are first written with said data to be saved, and then are overwritten with said rewritten data.

40. (Withdrawn) The computer program product of Claim 39, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and a read data system; said computer program product additionally comprises computer readable program code causing said at least one programmable computer processor to operate said read data system to read one of said wraps at a time with one set of said plurality of read heads.

41. (Withdrawn) The computer program product of Claim 34, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different wraps of said tracks of magnetic tape; said computer program product additionally comprises computer readable program code causing said at least one programmable computer processor to operate said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps in a sequence of said wraps, and to rewrite said saved data to another of said wraps that is offset from said one of said wraps.

42. (Withdrawn) The computer program product of Claim 34, additionally comprising:
computer readable program code causing said at least one programmable computer processor to operate said at least one buffer and said recording system to provide selected saved said data from said at least one buffer to cause a set of said plurality of write heads to temporarily rewrite said selected saved data to magnetic tape; and

computer readable program code causing said at least one programmable computer processor to release said selected data as originally written to tracks of said magnetic tape, said release allowing said originally written data to be overwritten.

43. (Withdrawn) A computer program product usable with at least one programmable computer processor having computer readable code embodied therein, said at least one programmable computer processor for operating a recording system for a magnetic tape drive; said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; said recording system comprising at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and said recording system for operating separate sets of said plurality of write heads to write data from said plurality of separate data flow outputs to magnetic tape; said computer program product comprising:

computer readable program code causing said at least one programmable computer processor to selectively operate said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape, and saving said provided data; and during the same operation, operate said at least one buffer and another of said recording system to provide saved

said data from said at least one buffer to cause another separate set of said plurality of write heads to write said saved and provided data to other tracks of said magnetic tape; and

computer readable program code causing said at least one programmable computer processor to selectively operate said at least one buffer and said recording system to provide data from said at least one buffer to cause said plurality of write heads to write provided data to tracks of magnetic tape.

44. (Withdrawn) The computer program product of Claim 43, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads; and a read data system; and wherein said computer program product additionally comprises computer readable program code causing said at least one programmable computer processor to selectively operate said read data system to read one of said wraps at a time with one set of said plurality of read heads; and selectively operate said read data system to read a plurality of said wraps at a time with said plurality of read heads.

45. (Withdrawn) Control logic for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and a recording system for operating separate sets of said plurality of write heads to write data from said plurality of separate data flow outputs to magnetic tape; said control logic:

operating said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data at said at least one buffer; and

during the same operation, operating said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to

magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data.

46. (Currently amended) ~~The control logic of Claim 45,~~ Control logic for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and a recording system for operating separate sets of said plurality of write heads to write data from said plurality of separate data flow outputs to magnetic tape; said control logic:

operating said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data at said at least one buffer; and

during the same operation, operating said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said data to be written to said magnetic tape is in the form of data transactions; and wherein said control logic additionally responds to an indication that said data transactions are to be written to magnetic tape as synchronized data transactions; operating said at least one buffer and said recording system to cause a separate set of said plurality of write heads to write said provided synchronized data transactions to tracks of magnetic tape in a discontinuous manner, and saving said provided synchronized data transactions at said at least one buffer; and, during the same operation, operating said at least one buffer and said recording system to cause another separate set of said plurality of write heads to rewrite saved said synchronized data transactions to other tracks of said magnetic tape in a continuous arrangement.

47. (Original) The control logic of Claim 46, wherein said control logic additionally operates said recording system to cause said separate set of said plurality of write heads to write separator signals between said discontinuously written data transactions.

48. (Original) The control logic of Claim 46, said magnetic tape drive additionally comprises an interface, and wherein said control logic additionally, for each said synchronized data transaction, returns a command complete at said interface upon completion of said writing said synchronized transaction to tracks of magnetic tape in a discontinuous manner.

49. (Currently amended) ~~The control logic of Claim 45;~~ Control logic for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and a recording system for operating separate sets of said plurality of write heads to write data from said plurality of separate data flow outputs to magnetic tape; said control logic;

operating said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data from said at least one buffer to tracks of magnetic tape;

saving said provided data at said at least one buffer; and

during the same operation, operating said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to rewrite said saved data to other tracks of said magnetic tape in a continuous arrangement, whereby said separate sets of said plurality of write heads, write said data to magnetic tape, and rewrite said saved data to said magnetic tape, during the same operation, said rewritten data comprising a continuous arrangement of said data;

wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said control logic operates said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps, said data to be saved, and

to rewrite saved said data on another of said wraps; and to seek to an alternate of said wraps to continue to write said provided data to be saved, and to seek back to said one of said wraps and said another of said wraps.

50. (Withdrawn) The control logic of Claim 45, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different sets of wraps of said tracks of magnetic tape, such that either of said sets of write heads may write data to at least some of said wraps; and wherein said control logic operates said wrap control, said at least one buffer and said recording system to access said wraps in a sequence, such that a wrap having said data to be saved follows in said sequence a wrap at which said data is rewritten, such that a continuous string of wraps are first written with said data to be saved, and then are overwritten with said rewritten data.

51. (Withdrawn) The control logic of Claim 50, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and a read data system, wherein said control logic additionally operates said read data system to read one of said wraps at a time with one set of said plurality of read heads.

52. (Withdrawn) The control logic of Claim 45, wherein said magnetic tape drive additionally comprises a wrap control for translating said plurality of write heads laterally to different wraps of said tracks of magnetic tape, and wherein said control logic operates said wrap control, said at least one buffer and said recording system to write provided data from said at least one buffer to one of said wraps in a sequence of said wraps, and to rewrite said saved data to another of said wraps that is offset from said one of said wraps.

53. (Withdrawn) The control logic of Claim 45, wherein said control logic operates said at least one buffer and said recording system to cause a set of said plurality of write heads to temporarily rewrite selected saved said data from said at least one buffer to said magnetic tape, and releases said selected data as originally written to tracks of said magnetic tape, said release allowing said originally written data to be overwritten.

54. (Withdrawn) Control logic for a magnetic tape drive, said magnetic tape drive having a plurality of write heads for writing to magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of write heads; at least one buffer storing data to be written to magnetic tape, said at least one buffer having a plurality of separate data flow outputs; and a recording system for operating separate sets of said plurality of write heads to write data from said plurality of separate data flow outputs to magnetic tape; said control logic:

selectively operating said at least one buffer and said recording system to provide data from said at least one buffer to cause a separate set of said plurality of write heads to write said provided data to tracks of magnetic tape, and saving said provided data; and during the same operation, operating said at least one buffer and said recording system to provide saved said data from said at least one buffer to cause another separate set of said plurality of write heads to write said saved and provided data to other tracks of said magnetic tape; and

selectively operating said at least one buffer and said recording system to provide data from said at least one buffer to cause said plurality of write heads to write said provided data to tracks of magnetic tape.

55. (Withdrawn) The control logic of Claim 54, wherein said magnetic tape drive additionally comprises a plurality of read heads for reading from magnetic tape while said magnetic tape is moved longitudinally with respect to said plurality of read heads, and a read data system, wherein said control logic additionally selectively operates said read data system to read one of said wraps at a time with one set of said plurality of read heads; and selectively operates said read data system to read a plurality of said wraps at a time with said plurality of read heads.